

In the Claims

The following Listing of Claims replaces all prior versions in the application:

LISTING OF CLAIMS

1. (Currently amended) An interface device for connecting SONET/SDH termination devices with payload processing devices, comprising:

(a) a receive module operative to receive incoming partially compliant SONET/SDH signal streams, to recover bit boundaries, and to recover byte and frame alignment and by ~~one of~~ using ~~SONET/SDH A1/A2 frame delineation to find both byte and frame boundaries and~~ using 8B/10B coding to find byte boundaries and 8B/10B control characters to find frame boundaries; and

(b) a transmit module operative to scramble STS-12, STS-48 and STS-51, to ~~one of~~ 8B/10B encode ~~and scramble~~ STS-12, to serialize said partially compliant SONET/SDH signal streams, convert said partially compliant SONET/SDH signal streams into outgoing low voltage differential signal (LVDS) levels, and to transmit said partially compliant SONET/SDH signal streams.

2. (Original) An interface device according to claim 1, wherein said interface device supports 8B/10B encoding of STS-12 at 622.08 Mb/s producing an effective line rate of 777.6 Mb/s.

3. (Original) An interface device according to claim 1, wherein said interface device

supports SONET scrambled coding for STS-12 at 622.08 Mb/s, STS-48 at 2488.32 Mb/s, and STS-51 at 2643.84 Mb/s.

4. (Currently amended) An interface device according to claim 1, wherein said interface device is operative to test links by inserting and checking ~~PRBS~~ pseudo random bit sequences.

5. (Currently amended) An interface device according to claim 1, wherein said interface device is operative, with respect to a given link, to individually test ~~an SPE~~ a synchronous payload envelope of a largest concatenated STS-Nc carried by said link by inserting and checking ~~PRBS~~ pseudo random bit sequences.

6. (Currently amended) An interface device according to claim 1, wherein said receive module comprises multiple receivers and said interface device is operative to find mutual frame alignment of partially compliant SONET/SDH frames on said receivers.

7. (Original) An interface device according to claim 6, wherein said interface device is operative to divide said receivers into groups which achieve separate mutual frame alignments.

8. (Original) An interface device according to claim 6, wherein said receivers allow mutually aligned incoming signals to have differential delay.

9. (Original) An interface device according to claim 8, wherein said receivers are operative to allow some signals to entirely skip space-switching stages, while other mutually

aligned signals pass through said space-switching stages.

10. (Original) An interface device according to claim 1, wherein said interface device supports diagnostic line testing by inserting B1 framing errors at said transmit module and checking said B1 framing errors at said receive module.

11. (New) An interface device for connecting SONET/SDH termination devices with payload processing devices, comprising: (a) a receive module operative to receive incoming partially compliant SONET/SDH signal streams, to recover bit boundaries, and to recover byte and frame alignment by one of using SONET/SDH A1/A2 frame delineation to find both byte and frame boundaries and using 8B/10B coding to find byte boundaries and 8B/10B control characters to find frame boundaries, wherein said receive module comprises multiple receivers and said interface device is operative to find mutual frame alignment of partially compliant SONET/SDH frames on said receivers; and (b) a transmit module operative to scramble STS-48 and STS-51, to one of 8B/10B encode and scramble STS-12, to serialize said partially compliant SONET/SDH signal streams, convert said SONET/SDH signal streams into outgoing low voltage differential signal (LVDS) levels, and to transmit said partially compliant SONET/SDH signal streams.

12. (New) An interface device according to claim 11, wherein said interface device supports 8B/10B encoding of STS-12 at 622.08 Mb/s producing an effective line rate of 777.6 Mb/s.

13. (New) An interface device according to claim 11, wherein said interface device supports SONET scrambled coding for STS-12 at 622.08 Mb/s, STS-48 at 2488.32 Mb/s, and STS-51 at 2643.84 Mb/s.

14. (New) An interface device according to claim 11, wherein said interface device is operative to test links by inserting and checking pseudo random bit sequences.

15. (New) An interface device according to claim 11, wherein said interface device is operative, with respect to a given link, to individually test a synchronous payload envelope of a largest concatenated STS-Nc carried by said link by inserting and checking pseudo random bit sequences.

16. (New) An interface device according to claim 11, wherein said interface device is operative to divide said receivers into groups which achieve separate mutual frame alignments.

17. (New) An interface device according to claim 11, wherein said receivers allow mutually aligned incoming signals to have differential delay.

18. (New) An interface device according to claim 17, wherein said receivers are operative to allow some signals to entirely skip space-switching stages, while other mutually aligned signals pass through said space-switching stages.

19. (New) An interface device according to claim 11, wherein said interface device

supports diagnostic line testing by inserting B1 framing errors at said transmit module and checking said B1 framing errors at said receive module.